

## REMARKS

### Administrative Overview

Claims 1-55 were withdrawn following Applicants' Response to the Restriction Requirement, filed on October 28, 2005. Applicants cancel without prejudice claims 1-55, reserving the right to pursue any or all of these claims in one or more divisional and/or continuation application(s).

Applicants amend claims 56, 57, 58, 61, and 64, and Applicants add new claims 65-76, as reflected in the Listing of Claims above. The claims are supported by the specification as originally filed, for example, as indicated in the chart below. No new matter is added.

<u>Claim number</u>	<u>Examples of support for amended claim/new claim in application as originally-filed</u>
56	Page 4, lines 1-19; Figs. 5-10
57	(amended in light of claim 56)
58	(amended in light of claim 56)
61	(amended in light of claim 56)
64	(amended in light of claim 56)
65	Page 5, lines 5-6; page 6, lines 16-18
66	Page 6, lines 18-20
67	Page 6, lines 20-22
68	Page 3, line 13
69	Page 4, lines 10-11
70	Page 4, lines 1-19; Figs. 5-10 and 27
71	Page 11, lines 20-21
72	Fig. 1A
73	Page 5, lines 5-6, page 6, lines 16-18
74	Page 6, lines 18-20
75	Page 6, lines 20-22
76	Page 3, line 13

Following entry of this paper, claims 56-76 will be pending.

Claims 56-64 were considered in the Office action dated January 10, 2006. Claims 56 and 57 stand as rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Publication No. 2002/0154132 A1 (**Dumesny**); and claims 58-64 stand as rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over **Dumesny** in view of U.S. Patent No. 6,707,458 B1 (**Leather**).

### Objections to the Drawings

The Office Action makes the following objections regarding the drawings: (1) reference sign #1812 is missing; (2) reference sign #2302 in Figure 23A is not mentioned in the description, and (3) certain Figures were cut off when scanned into the PTO's IFW system.

Applicants resubmit black-and-white copies of the formal drawings herewith, thereby overcoming objection (3).

Applicants note that reference sign #1812 appears in Figure 18A, color copies of which were filed on the original filing date of December 10, 2003. It appears that the scanned version may have obscured this reference sign. The reference sign #1812 appears clearly in the black-and-white copies of the formal drawings that are submitted herewith, thereby overcoming objection (1).

Applicants amend paragraph [0175] of the original specification as indicated above in the Amendments to the Specification. Paragraph [0175] is amended in compliance with 37 CFR 1.121(b) to indicate that the "X-axis" of the widget shown in Figures 23A-C has reference #2306, and the "Y-axis" of the widget shown in Figures 23A-C has reference #2302. No new matter is added thereby. The amendment overcomes objection (2).

In light of the above, Applicants request the reconsideration and withdrawal of the objections to the drawings.

### Amended independent claim 56 is patentable over the cited art

Without acquiescing to any of the arguments or rejections of the Office Action, Applicants amend independent claim 56 as reflected in the Listing of Claims above. The amendment is supported in the application as originally filed, for example, on page 4, lines 1-19, and in Figures 5-10.

**Dumesny** and **Leather** describe texture mapping methods that use standard mapping functions associated with a given geometric primitive, such as a plane, a cube, a cylinder, a sphere, or a cone. **Dumesny** describes such texture mapping methods on page 1, paragraph [0005], and **Leather** describes such methods at col. 2, line 60, to col. 3, line 4, reproduced below:

#### Dumesny, page 1, paragraph [0005]:

**[0005]** A texture is mapped onto a 3D object by creating a mapping, or correlation, between coordinates in the object space and coordinates in the texture space. Different mapping functions can be used to apply a texture to a 3D object depending on the object designer's preferences. Many of the various different "primitives" (fundamental surface topologies) each has an associated standard mapping function. As

shown in FIG. 5A, for example, the standard texture mapping function for a cube is to apply the entire texture map to each face of the cube. The standard mapping function for a cylinder is to apply the texture map to each end face of the cylinder and to wrap one instance of the entire texture map around the cylinder's circumference, as shown in FIG. 5B. Standard texture mapping functions also exist for a sphere (FIG. 5C) and a cone (FIG. 5D).

Leather, col. 2, line 60, to col. 3, line 4:

60

#### FIELD OF THE INVENTION

The present invention relates to computer graphics, and more particularly to interactive graphics systems such as home video game platforms. Still more particularly this  
65 invention relates to an improved texture tiling method and apparatus which uses indirect texture index maps to reference texture tiles in a tile definition map and map the texture

tiles onto a rendered primitive. The invention further enables synthesized (blended) texture tiles to be created from a tile definitions map and mapped onto a primitive in a manner which prevents the appearance of repeating texture patterns.

Dumesny goes on to explain that these mapping techniques based on geometric primitives cause artifacts that must be edited, and Dumesny appears to present an editing interface for use with these standard mapping methods.

Leather appears to describe an improved texture tiling method, but the method still maps texture onto a primitive.

Neither Dumesny nor Leather teaches or suggests "a mapping scheme wherein points of a planar mesh are adjusted to account for a spacing of corresponding points within [a] user-defined region of the surface of [a] three-dimensional virtual object, and wherein the texture is superimposed onto a patch based on the adjusted planar mesh," as recited in amended claim 56 in the above Listing of Claims.

The present application describes a mapping scheme that is customized for the three-dimensional shape of the user-selected region on the surface of the 3-D virtual object. The mapping scheme does not require using standard mapping functions for geometric primitives such as planes, cylinders, spheres, and cubes. These primitives may not resemble the user-selected region, leading to distortion.

Furthermore, in certain embodiments, the mapping scheme of the present application models points of a planar mesh as connected by springs, and adjusts this mesh to minimize the energy associated with the springs. The texture is then superimposed onto a patch based on the adjusted planar mesh.

Because none of the cited art, individually or in combination, teaches or suggests every element of claim 56, then claim 56 is patentable over the cited art. Applicants therefore request the reconsideration and withdrawal of the rejection of claim 56 under 35 USC 102(b).

Dependent claims 57-69 are patentable over the cited art

Likewise, because a dependent claim includes all of the limitations of the independent claim from which it depends, Applicants assert that dependent claims 57-69 are patentable, at least on this basis. Applicants request the reconsideration and withdrawal of the rejections of claims 57-64, at least on this basis. Applicants reserve the right to present further arguments regarding the patentability of the dependent claims in light of the cited art.

Independent claim 70 and its dependent claims 71-76 are patentable over the cited art

Applicants add new independent claim 70, which is an apparatus claim related to the subject matter of claim 56. For the reasons discussed above, Applicants contend that claim 70 and its dependent claims 71-76 are patentable over the cited art.

**CONCLUSION**

In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of all rejections, and allowance of claims 56-76 in due course. The Examiner is hereby cordially invited to contact Applicant's undersigned representative by telephone at the number listed below to discuss any outstanding issues.

Respectfully submitted,



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Date: July 6, 2006  
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